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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,867	03/04/2005	Anton Petrus Maria Van Arendonk	NL 020814	7999

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EXAMINER	
WYATT, KEVIN S	
ART UNIT	PAPER NUMBER
2878	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/526,867	VAN ARENDONK, ANTON PETRUS MARIA	
	Examiner	Art Unit	
	Kevin Wyatt	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7 and 9-12* is/are rejected.

7)☒ Claim(s) *2,8 and 13-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *0305 and 1105*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1 and 13 are objected to because of the following informalities:

In claim 1, line 2, "body" should be changed to --body,--.

In claim 1, line 4, "in" should be removed.

In claim 1, line 4, "located" should be changed to --located in-- or --located within--.

In claim 13, line 1-2, "any one of the claims 7" should be changed to --claim 7 --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Lin (Publication No. U.S. 2004/0070014 A1).

Regarding claim 1, Lin shows in Fig. 4 a semiconductor device (17) comprising an optoelectronic semiconductor element (16) comprising a semiconductor body (14, i.e., base), a surface which has an optically active part (combination of first electrode (51) and opening (41)) and a non-optically active part (51, i.e., second electrode) which

are located in electrical connection areas (first and second electrode parts) of the optoelectronic semiconductor element (16), above which optically active part of the surface of the semiconductor body a body is located comprising an optical component (15, i.e., transparent conductive substrate), characterized in that the body comprises an optically transparent foil (311, i.e., transparent plate) in which the optical component is formed that is located on the optically active part of the surface of the semiconductor body and is connected to it (paragraph 0040).

Regarding claim 7, Lin shows in Fig. 4 a method of manufacturing a semiconductor device (17) comprising an optoelectronic semiconductor element (16) with a semiconductor body (14, i.e., base) of which one surface has an optically active part (combination of first electrode (51) and opening (41)) and an optically non-active part (51, i.e., second electrode) within which there are electrical connection areas (first and second electrode parts) of the optoelectronic semiconductor element, above which optically active part of the surface of the semiconductor body a body is installed comprising an optical component (15, i.e., transparent conductive substrate), characterized in that for the body is chosen an optically transparent foil (311, i.e., transparent plate) which the optical component is formed that is installed on the optically active part of the surface of the semiconductor body.

4. Claims 1-5, and 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Prior (Publication No. U.S. 2004/0065952 A1).

Regarding claim 1, Prior shows in Fig. 3, a semiconductor device comprising an optoelectronic semiconductor element (3, i.e., chip) comprising a semiconductor body, a

surface which has an optically active part (surface of optical sensor (6)) and a non-optically active part (areas extending outside of window holder (19)) in which are located electrical connection areas of the optoelectronic semiconductor element, above which optically active part of the surface of the semiconductor body a body (combination of window holder (19) and window (22)) is located comprising an optical component (22, i.e., window), characterized in that the body comprises an optically transparent foil (any optically transparent material) in which the optical component is formed that is located on the optically active part of the surface of the semiconductor body (body of chip (3)) and is connected to it.

Regarding claim 3, Prior shows in Fig. 3, a semiconductor device as claimed in claim 1, characterized in that a further body (combination of lens holder (23) and optical lens (26)) is attached to the semiconductor body (body of chip (3)), which further body comprises a further optical component (26, i.e., optical lens) above the active part of the surface of the semiconductor body (body of chip (3)) which further optical component is separated from the foil by a hollow space.

Regarding claim 4, Prior shows in Fig. 3, characterized in that the further body (combination of lens holder (23) and optical lens (26)) comprises a cylindrical part of which one end is glued to the foil (via adhesive (24)) and of which the other end is provided with the further optical component.

Regarding claim 5, Prior shows in Fig. 3, a semiconductor device as claimed in claim 1, characterized in that the optoelectronic semiconductor element (3, i.e., chip) is fixed to an electrically insulating flexible foil (2, i.e., flexible support plate) of which one

side is provided with a conductor pattern, the electrical connection areas are connected to the conductor pattern by means of wire links (10, i.e., electrical wires) and the wire links are enveloped in an insulating sheathing (13, i.e., encapsulation ring).

Regarding claim 7, Prior shows in Fig. 3, a method of manufacturing a semiconductor device comprising an optoelectronic semiconductor element (3, i.e., chip) with a semiconductor body (body of chip (3)) of which one surface has an optically active part (surface of optical sensor (6)) and an optically non-active part (areas extending outside of window holder (19)) within which there are electrical connection areas of the optoelectronic semiconductor element (3, i.e., chip), above which optically active part of the surface of the semiconductor body (body of chip (3)) a body is installed comprising an optical component (22, i.e., window), characterized in that for the body is chosen an optically transparent foil (any optically transparent material) which the optical component is formed that is installed on the optically active part of the surface of the semiconductor body (body of chip (3)).

Regarding claim 10, Prior shows in Fig. 3, characterized in that a further body (combination of lens holder (23) and optical lens (26)) that is provided with a further optical component (26, i.e., optical lens) is fixed to the semiconductor body (body of chip (3)) so that the further optical component (26, i.e., optical lens) is located above the optically transparent foil (22, i.e., window) and is separated from it by a hollow space.

Regarding claim 11, Prior shows in Fig. 3, a method characterized in that for the further body (combination of lens holder (23) and optical lens (26)) a cylindrical part is

selected of which one end is glued to the foil (via adhesive (24)) and of which the other end is provided with the further optical component (26, i.e., lens holder).

Regarding claim 12, Prior shows in Fig. 3, a method characterized in that the optoelectronic semiconductor element (3, i.e., chip) is fixed to an electrically insulating flexible foil (2, i.e., flexible support plate) of which one side is provided with a conductor pattern, the electrical connection areas are connected to the conductor pattern by means of wire links and the wire links (10, i.e., electrical wires) are enveloped in an insulating sheathing (13, i.e., encapsulation ring).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior (Publication No. U.S. 2004/0065952 A1) in view of Hanada (Publication No. U.S. 2004/0166763 A1).

Regarding claim 6, Prior discloses the claimed invention as stated above. Prior does not disclose that the further component comprises a lens and/or a filter opaque to infrared radiation. Hanada shows in Fig. 1 a further component comprising a filter opaque to infrared radiation. It would have been obvious to one skilled in the art to

provide a filter such the one disclosed in Hanada to the device of Prior for the purpose of imaging visible light without unwanted infrared radiation.

Regarding claim 13, Prior discloses the claimed invention as stated above. Prior does not disclose a method characterized in that a carrier body comprises a number of strip-like or rectangular optically transparent foils which receive the adhesive layer on the side turned away from the carrier body is moved above a wafer that contains a number of semiconductor elements and, after the carrier body with the foils has been aligned relative to the wafer of semiconductor elements, the foils are glued to the semiconductor elements by pressing the carrier body onto the wafer after which the carrier body is removed. Hanada discloses a method characterized in that a carrier body (41, i.e., lens mount jig) comprises a number of strip-like or rectangular optically transparent foils (42, i.e., mask) which receive the adhesive layer (46, i.e., bonding material) on the side turned away from the carrier body is moved above a wafer (3, i.e., sensor chip) that contains a number of semiconductor elements and, after the carrier body with the foils has been aligned relative to the wafer of semiconductor elements, the foils are glued to the semiconductor elements by pressing the carrier body onto the wafer after which the carrier body is removed. It would have been obvious to one skilled in the art incorporate the method of Hanada to the device of Prior for the purpose of protecting foil from foreign matter during formation.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prior (Publication No. U.S. 2004/0065952 A1).

Regarding claim 9, Prior discloses the claimed invention as stated above. Prior does not disclose a method characterized in that the optical component is formed in the foil by pressing the foil with a profiled die and preferably while at the same time heating is applied. Miller discloses a method characterized in that the optical component is formed in the foil by pressing the foil with a profiled die and preferably while at the same time heating is applied (col. 4, lines 8-29). It would have been obvious to one skilled in the art to incorporate a method such as one disclosed in Miller to the device of Prior for the purpose of producing optical elements with high optical quality.

Allowable Subject Matter

7. Claims 2,8 and 13-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Claims 2 and 8 have allowable subject matter because the prior art fails to disclose or make obvious, either singly or in combination, semiconductor device or a method of manufacturing a semiconductor device, comprising, in addition to the other recited limitations of the claim, "characterized in that the optical component is fixed to the surface of the semiconductor body by means of an optically transparent adhesive layer."

Claim 13 has allowable subject matter because the prior art fails to disclose or

make obvious, either singly or in combination, a method, comprising, in addition to the other recited limitation of the claim, "foils are glued to the semiconductor elements by pressing the carrier body onto the wafer after which the carrier body is removed."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kawai (Publication No. U.S. discloses digital camera system having lens to be replaced.

Lin (Publication No. U.S. 2004/0069999 A1) discloses an optoelectronic device.

Miyake (Publication No. U.S. 2001/0050721 A1) discloses an image device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Wyatt whose telephone number is (571)-272-5974. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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